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CONNECTICUT ENVIRONMENT

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The Gentle Art of Cloud Watching

September
1988

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Editor's Note

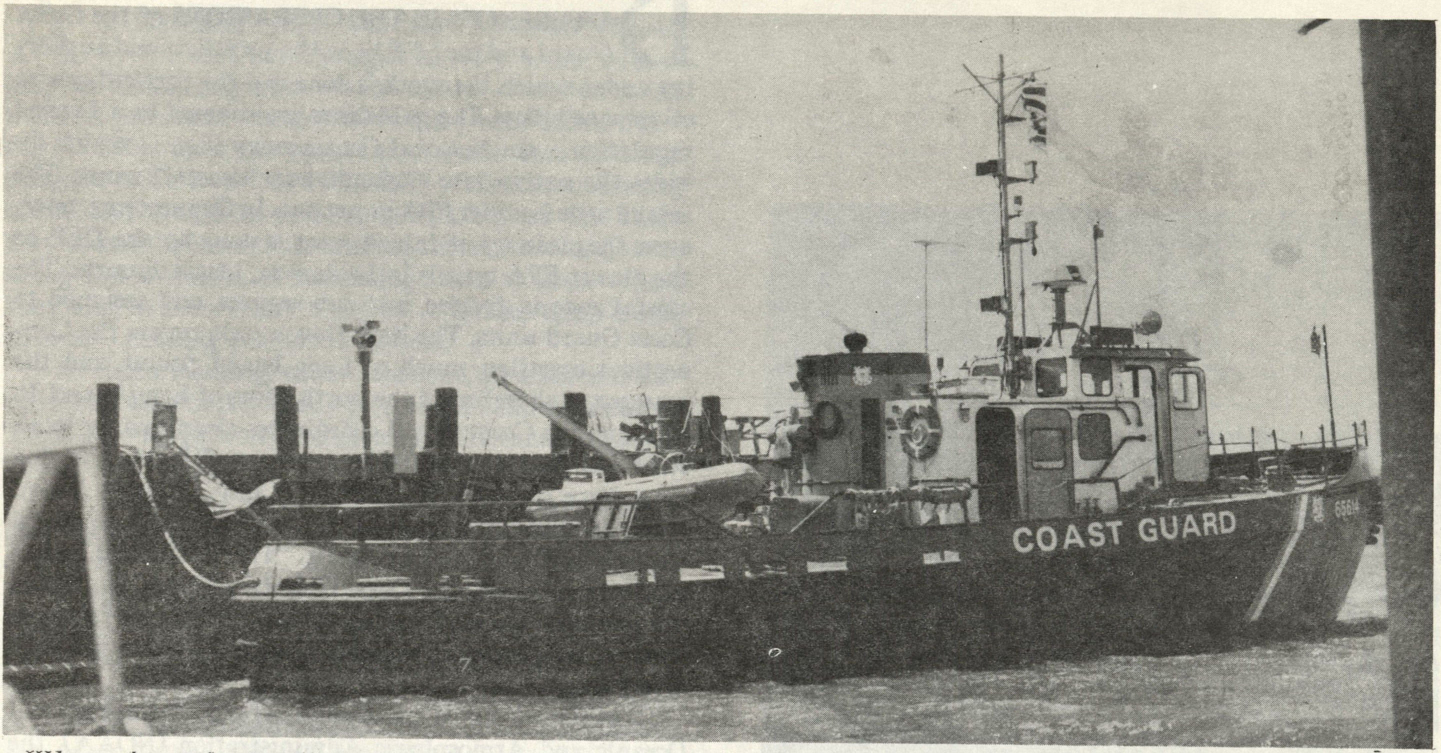
September again. We begin another year of our magazine, this time with a new name and a little wider focus. We are explicitly reaching out to as many kids, students, "non-professional" environmentalists, and seniors as we can. The more people who get this stuff, the better.

A question often asked around here is why don't we go to color, get more glitzy, more slick? Well, we probably will, simply because that's the natural way of things: grow or die. But, there's no hurry; what we're trying to do here at this magazine is stay very close to the basics. We want to make sure that we don't lose sight of substance.

A while ago on TV there was a show about how very advanced lasar-graphics were used to put together some of the most elaborate, mind-boggling, and expensive seconds ever seen on television. There were books flying like seagulls, a multi-dimensional crystal skull, all kinds of impossible imagery that only top-of-the-line computers and big money could produce. But, after it was all over, the question which seemed to hover unanswered in the air was, "Well, yeah, that's very nice, but so what?"

In this magazine, *Connecticut Environment*, before anything else, we want to clearly establish the "so what." Here, the so-what is that this planet is a very delicately balanced, unique, and irreplaceable treasure. And further, that our job, our most sacred mission, is to guard this planet with as much unselfishness, intelligence, and responsiblity as we can muster. That's the so-what of what we're doing. And then, as that gets nailed down tight, then no doubt we'll get around to color and all those other neat things.

R.P.



When a hazardous spill occurs on the waters of Long Island Sound, the U.S. Coast Guard gets the call. (Photo by L. Blake)

Accident at Sea: Who Cleans Up the Mess?

On Long Island Sound, the Coast Guard gets the call.

by
Laura J. Blake
Environmental Intern

ANY ASSET CAN BECOME A LIABILITY. The chemicals and fuels that make modern civilization so comfortable clearly have a down side. If you look closely at all those bottles and containers, you will see that each one has a little skull and crossbones somewhere on the label. Things that make life smoother can become a hazard, if not handled properly.

On the large scale, improper management of these materials can affect an entire population. We live in an age when hazardous materials are all too frequently, even catastrophically, spilled into the environment. And, when the accident occurs at sea, on the open water, the dangers involved become multiplied. What actually happens, then, when great quantities of hazardous materials get out of control in our front yard, in Long Island Sound? Who cleans up the mess? Is it *possible* to clean up the mess?

The federal Environmental Protection Agency (EPA) and the DEP are usually given the call when chemical emergencies come up in the inland areas of the country, and each agency has its particular area of responsibility. But, when a spill occurs on the waters or coastal areas of Long Island Sound, the agency that gets the call is the United States Coast Guard. Well-known for fighting crime, the Coast Guard also fights pollution.

"The Coast Guard is the primary federal law enforcement arm for pollution regulation on Long Island Sound," states Lt. Henry Deens, head of the marine environmental protection unit for the Coast Guard in Connecticut. Based in New Haven, this unit is responsible for the entire Connecticut shoreline and most of the Connecticut and Thames rivers. Commander Thomas Collins is the "Captain of Port" and is ultimately responsible for the work of the unit. Whenever a hazardous substance or oil spill occurs that might affect Connecticut coastal areas or waterways, the members of the Coast Guard's reserve unit are on call, any time, 24 hours a day. The unit is equipped with the most modern, state-of-the-art equipment. The dangerous work of hazardous substance or oil clean-up and the later, more detailed, investigative work of discovering a spill's source require not only physical courage, but also intelligence and finesse.

DIFFERENCES IN THE OPERATIONS of the Coast Guard and the DEP lie in the jurisdictional authority under which the work is done and the particular area of responsibility. The guidelines are covered in a federal regulation – the National Contingency Plan – which divides the nation into "inland" and "coastal" zones. The inland zone is under EPA protection. In Connecticut, however, the clean up of inland areas is done by the DEP, as the closest EPA unit is in Lexington, Massachusetts. The coastal zone is divided into sub-regions, and assigned to Coast Guard units. The New Haven unit covers the Connecticut coastline, much of Long Island Sound, and the waters and shoreline of the north shore of Long Island. In addition, the Coast Guard coordinates clean ups by local, state, and federal agencies as necessary. Working with a local force or the DEP emergency unit, a Coast Guard officer will often be present to investigate and report on any violations of federal laws. "The National Contingency Plan directs the Coast Guard's Captain of Port to provide the manpower, equipment, and federal funds to respond to hazardous substance or oil spills as needed," says Deens.

Members of the Coast Guard's Emergency Unit are on call 24 hours a day.

The Coast Guard coordinates efforts of the National Oceanic and Atmospheric Administration (NOAA), the U.S. Fish and Wildlife Service, local muncipalities, and state agencies. And, when necessary, the Captain of Port has the authority to bring in the National Strike Force, an elite group of expert fire-fighters who are ready at a moment's notice. In the Coast Guard's zone, responsibility for any discharge of oil or hazardous substance in a tributary of Long Island Sound or merely a release of a hazardous substance into any part of the environment requires Coast Guard involvement.

HAZARDOUS SUBSTANCES, if mishandled, can be dangerous to the environment and public health. Chemical and oil spills pose immediate explosive risks and a longer term danger to ground water. Members of the Coast Guard's marine environmental protection unit receive at least six weeks of special training in spill response and port safety law enforcement. Much of the training, however, takes place on-the-job.

Very specialized equipment is used to perform the actual removal operations. Four boats for use in open-water operations and investigative work are docked at the New Haven base. Most investigations are done with two 41-foot vessels which are equipped with at least three armed crew members, the most modern radar and navigation equipment, and communication equipment for coordinating off-shore clean ups. The cellular phone, in particular, has proven highly beneficial. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), part of the Coast Guard's national authority, provides funds for the unit when it deals with chemical spills.

There are, of course, times when there is simply not enough time for these vessels to respond successfully to a spill. In such cases, land-based response vehicles are used.

AN UNDERSTANDING OF THE EQUIPMENT used by the unit and the agencies they work with is helpful to realizing how much work is involved in the removal process. A "boom," or floating containment barrier, is often used for open-water spills. This device is designed with an underwater skirt affixed to a floating collar, and is held in position with a ballast. The boom may contain spills by surrounding them, restricting them along the shoreline, or deflecting them to areas where they may be more easily removed. A sorbent boom is able to absorb floating petroleum liquids.

At times, floating, water-repellent, oil-absorbent materials are used to physically pick up oil from waterways. These may range from sophisticated, man-made devices to treated corn cobs.

To prevent oil from entering a waterway, a berm may be used. Behind the berm are placed sorbent materials or a boom.

A vacuum tank may be used to remove contaminant from the water surface. The oil-water mixture can be loaded into these tanks and then dewatered. When the tank is full of clean oil, the load will then be transferred to a tanker for transportation to a storage site. Skimmers are used with vacuum equipment to maximize the amount of floating oil removed from the water.

Well known for fighting crime, the Coast Guard also fights pollution.

FREQUENT MEDICAL EXAMINATIONS are required for the unit members. "The problem is that the exact nature of a spill is often not known until you are actually in the removal process, and by then contact has already occurred," says Lt. Deens. So occasionally clean ups are delayed until properly equipped persons can respond or until the substance is known. Even clean ups of gasoline are now more difficult for those involved. "Gasoline is not only dangerous because of its explosive properties, but also for its long term toxic effiets." Deens tells of the scare that occurred recently when a gasoline spill from a boat was reported and there were indications of a bomb on board the vessel. This is the kind of high-tension situation this unit occasionally deals with. And, if this job doesn't seem rough enough, there are long term effects of working regularly with toxic materials. "Cancer is definitely a major concern," says Deens, "especially for those who worked on gasoline spills before its toxic properties were known." Deens says that now that more of the dangers involved in these clean ups are known, deaths from exposure can be prevented.

One of the problems in responding to spills is that they can move so quickly; by the time the location reported is reached, the hazardous materials may be widely dispersed. The investigation of such a spill is, at best, difficult.

Investigation takes up much of the time the unit members spend on the water. Last year, the Coast Guard handled 120 cases, over half of which were resolved by finding the source of the spill. Six 41-foot vessels are manned around the sound by crews of three who trace open-water spills to their sources. The key word here is persistence. One petty officer investigated one particular storm drain for weeks until the parties responsible were discovered. Tracking may even take years; the source for a spill occurring in August of 1986 on the New York-Connecticut border has only recently been identified. While searching for the source of this discharge, the unit found that the company responsible had closed down and another company had moved into the area, even constructing a new building on the site. In this situation, the current owner of the property was held responsible. In New London, a spill from one particular oil pipe took many years before reaching a tributary of navigable waters and being discovered.

WEATHER CAN BE A HUGE OBSTACLE to removal and investigative work. Night investigations are generally futile unless targets have been pinpointed; usually the Coast Guard will wait until first light to use the boats. The worse the weather conditions, the more difficult the search. Heavy rains not only make the sailing rough, they also disperse spills before they can be contained. Rain will push the flow of water through a storm drain with such intensity the flow of oil cannot be traced. The danger of a spill reaching ground water increases drastically with heavy rains.

A change of season may bring an increase of problems. In winter, the rise in petroleum transportation leads to more incidents of oil spills. Truck accidents and the overfilling of storage tanks, which leads to spills, is cause for an increase in the business of waste removal.

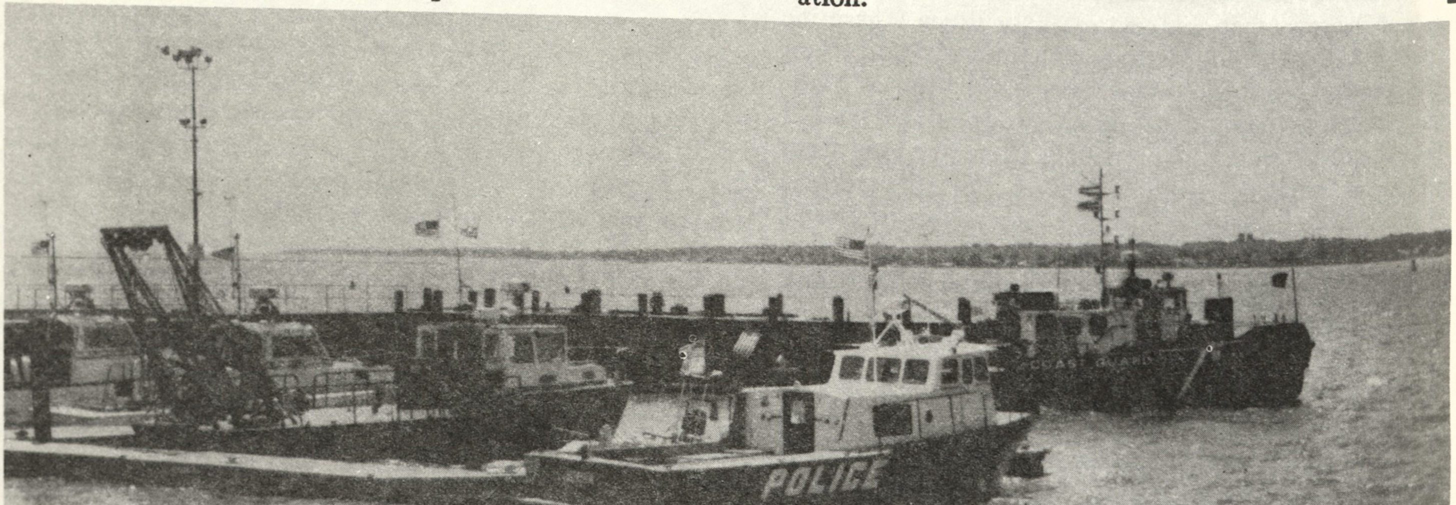
In order to reach and contain a spill before it can spread, the Coast Guard will work with the DEP emergency unit or a local government. If local forces can reach and contain the spill themselves, they will do so and cooperate with the Coast Guard's violation investigation after the spill had been cleaned up.

"The DEP unit and the Coast Guard unit work concurrently on many occasions," says Charles Ziemenski of the DEP's emergency spill response team. At times, the DEP will handle a spill and later report to the Coast Guard if federal violations found. The two units work together on major spills, and have been doing so successfully for over 10 years. On the day this writer met with the unit, a spill occurred in Norwalk out of a Connecticut Light and Power pumphouse. Both the DEP and the Coast Guard were involved in the investigation. While the DEP will assess what violations of state laws took place, it is up to the Coast Guard officer to decide on any violations of federal regulation. A barge accident in 1986 at Fisher's Island required the planning and communication of both agencies to bring the problem to a safe conclusion.

THERE ARE NO EASY SOLUTIONS. There is no magic filter, and nothing that cleans up everything. Even with the work of both the Coast Guard and the DEP, a spill can not always be handled with satisfactory results. Regulations exist to keep production and transportation of hazardous materials as safe as possible, but when violations do occur, they can cause irreparable harm.

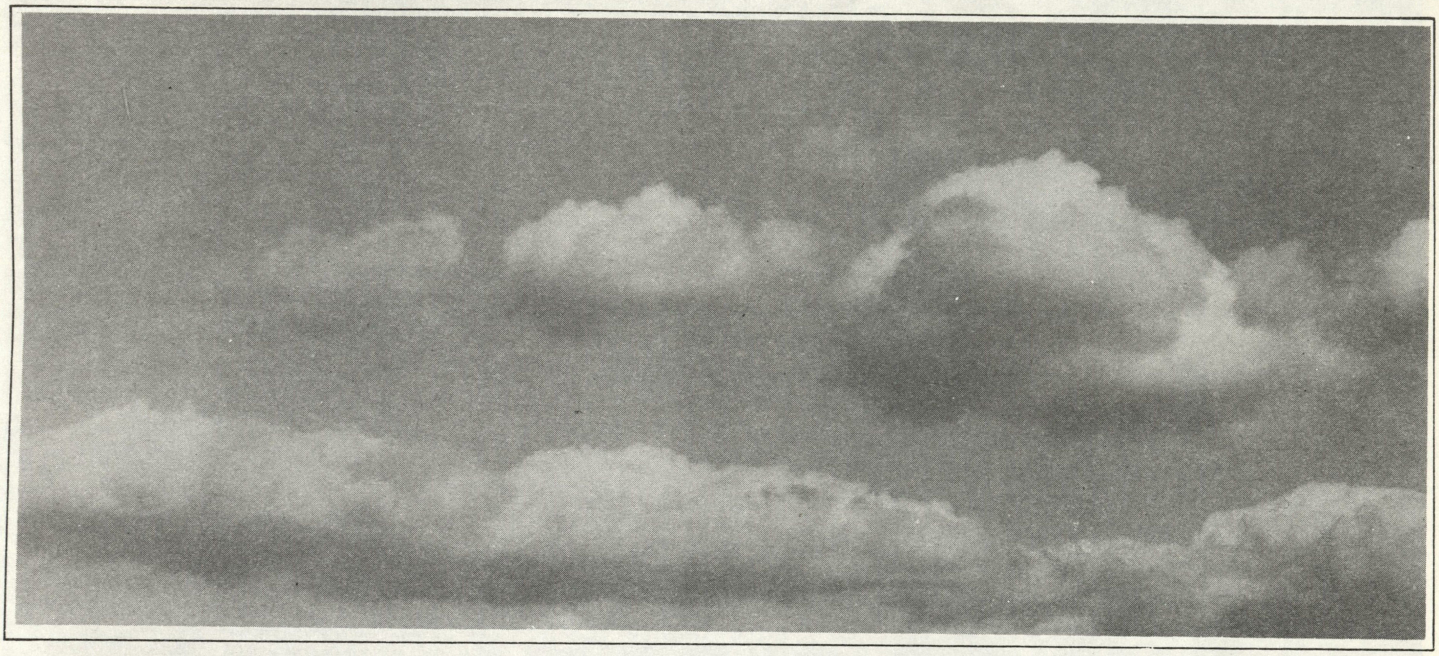
The enforcement of federal regulations and guidelines on waste management and transportation of hazardous materials comprises much of the work the Coast Guard's emergency spill unit does, but providing information to private citizens and organizations can stop problems before they occur.

The Coast Guard works to increase public awareness through talks and demonstrations. Educating people and organizations on how to handle accidents and who to report to when they do occur can only help increase the success of an already efficient and highly successful operation. ■



Much of the Coast Guard's effort is aimed toward preventing accidents before they happen.

The Gentle Art of Cloud-Watching



by
Penni Sharp

THIS PAST SUMMER, and I think more than other summers of recent memory, the weather has been an object of concern. During July, brown lawns and parched gardens bore witness to the drought in the Northeast. The evening news told of the plight of Midwestern farmers as the hot, dry days persisted.

I found myself looking anxiously up at the sky for signs of rain. In other summers, I had hoped for clear skies and sunny days. And it occurred to me as I looked skyward that clouds are among those deceptively common, everyday things that we take for granted to the point of not noticing them anymore. Most of us don't really see the clouds unless they threaten rain or snow.

Yet clouds can tell us much about the weather to come; cloud formations provide clues to the motion of air within the atmosphere. Beyond this, clouds give the celestial landscape an ever-changing variety of shapes and moods. I can think of few greater joys than lying beneath a shady tree and watching summer clouds roll by. Schedules are made to be broken; taking a little time off on a summer afternoon to watch the clouds is a gift that everybody deserves. Big, fleecy white clouds, changing and swirling against a sky of blue, are as spectacular as the technicolor, silver-lined clouds of sunrise or sunset.

LIKE MOST KIDS, I was taught the names of clouds while in grade school. Their exotic Latin names led me to believe that they had been named in ancient times. Only later did I discover that clouds were first named and classified in the early 19th century. This classification became more subtle and sophisticated, however, as man's understanding of nature progressed. Once man had taken to the skies, it became critically important to understand potentially dangerous weather phenomena.

The initial classification system remains the basis of the modern system. There are two basic types of clouds: *stratus* clouds, which are layered; and *cumulus* clouds, which are heaped. The two basic types have been further divided in respect to appearance and altitude.

Stratus clouds are usually closest to the earth, generally at less than 6000 feet above sea level. A *stratus* cloud looks like a smooth, even covering; this is the cloud that frequently produces drizzle. A cloud of slightly higher elevation, but not of even thickness, is probably a *stratocumulus* cloud. The bottom of this cloud shows variations of light and dark areas, indicating concentrations of clouds within the layer.

THE middle altitudinal range for clouds lies between 6,000 and 20,000 feet above the earth's surface. Clouds within this area are the *altostratus, altocumulus*, and *nimbostratus*. An *altostratus* cloud covers the sky with a smooth gray or white sheet-like layer. Sometimes this cloud is thin enough to permit the sun to shine through. *Altocumulus* clouds

Big fleecy white clouds, changing and swirling against a blue sky, are as spectacular as any sunset. (*DEP file photos.*)

come in many sizes and shapes. They can be unconnected clumps of clouds or several clouds piled together. A *nimbostratus* is a smooth, layered gray cloud that often brings rain or snow.

The highest clouds occur at heights above 20,000 feet and sometimes reach heights of over 35,000 feet. Clouds found at this horizon are *cirrus, cirrostratus*, and *cirrocumulus*. *Cirrus* clouds are thin, wispy clouds formed entirely of ice crystals. A *cirrostratus* cloud is like a thin sheet stretched across the sky. This cloud forms a halo around the sun or the moon. *Cirrocumulus* clouds have the appearance of tufts of cotton high in the sky. Some clouds occur in all three ranges, originating at around 6,000 feet and reaching heights of over 60,000 feet.

A *cumulus* cloud, perhaps the most picturesque of all clouds, may have its base relatively close to the ground. These big, puffy clouds may float across the sky or they may develop into the *cumulonimbus*, a very dramatic looking cloud. This towering cloud, also known as a thunderhead, is where lightening and thunder originate.

CLOUDS play an important role in the water cycle which, among other things, makes life on our planet possible. Clouds are formed when water evaporates from oceans, lakes, and rivers. Water vapor rises, expanding and cooling as it does so. As the temperature drops, the vapor condenses to form droplets of water or ice. A cloud is really just a collection of water droplets or ice crystals. When the water vapor condenses into droplets, heat is given off and radiated into the surrounding atmosphere. Thus, as a cloud is formed, the air around it becomes warmer; this makes the cloud more buoyant and causes it to rise higher in the sky.

Some clouds are formed when weather fronts (masses of warm and cool air) meet. The water vapor in the rising warm air becomes cooler and condenses into the water droplets that form clouds. Precipitation occurs when water evaporates from the liquid droplets and freezes on an ice crystal. The crystal continues to grow until it falls out of the cloud and descends toward earth as a snowflake. If it reaches a zone where the temperature is above freezing, it becomes a raindrop.

Surprisingly small amounts of water go into the make-up of a cloud. A summer *cumulus*, measuring several hundred yards on a side, contains approximately 25 to 30 gallons of water. When one stops to think that this amount *might* fill a bath tub, one realizes how thick the cloud cover must be to produce rain.

A cloud, once formed, either grows or disappears. If, for instance, a cloud comes into contact with a downdraft, it may be driven down to an area of higher atmospheric pressure. At that point, the air in the cloud will heat up, water molecules will leave the droplets, and the cloud will vanish. If you spend much time watching clouds, you may notice that some clouds seem to disappear. The openings a cloudy sky are sometimes the result of this process.

THE PATTERNS in which clouds appear in the sky can be very telling about the weather to come. One sequence that precedes the stormy weather associated with a low pressure system begins with the appearance of a few *cirrus* clouds in the west. These accumulate and gradually merge into a cover of *cirrostratus* clouds. These remain, but are hidden by the arrival of a lower layer of *altostratus* clouds that thickens and blocks the sun. Snow and rain may fall, then still lower *nimbostratus* clouds move in, bringing increased precipitation. The storm moves on, although the sky may remain overcast with *stratocumulus* clouds. Thus, the appearance of high wispy clouds may signal a spell of bad weather.

SUMMER WEATHER brings opportunities to watch thunderstorms form. A day may start off with a clear morning sky, with only a few *altocumulus* clouds. As the earth's surface warms, *cumulus* clouds appear and increase in size. The clouds may grow into towering *cumulus* clouds bringing some rain. They may continue to grow in height. An anvil-shaped formation of *cirrus* clouds spreads out at the top and extends ahead of the main clouds. The cloud is now a classic thunderhead, and a thunderstorm usually follows.

Clouds influence the temperature of the earth. Cloudy days tend to be cooler than sunny days, as sunlight reflects from the clouds back into space and thus does not heat the earth. At night, cloud cover has the opposite effect and radiates the earth's heat back to the ground. As mid-October approaches, I am always glad for cloudy skies at night, as a layer of clouds usually means a delay in the arrival of the first frost.

Clouds are mentioned frequently in folklore. Many of the old sayings are true to some degree, and here is a sampling:

> *"I too for years past have been stirred by the sight of a solitary cloud drifting with the wind to ceaseless thoughts of roaming."*
>
> Matsuo Basho

"The higher the clouds, the better the weather."

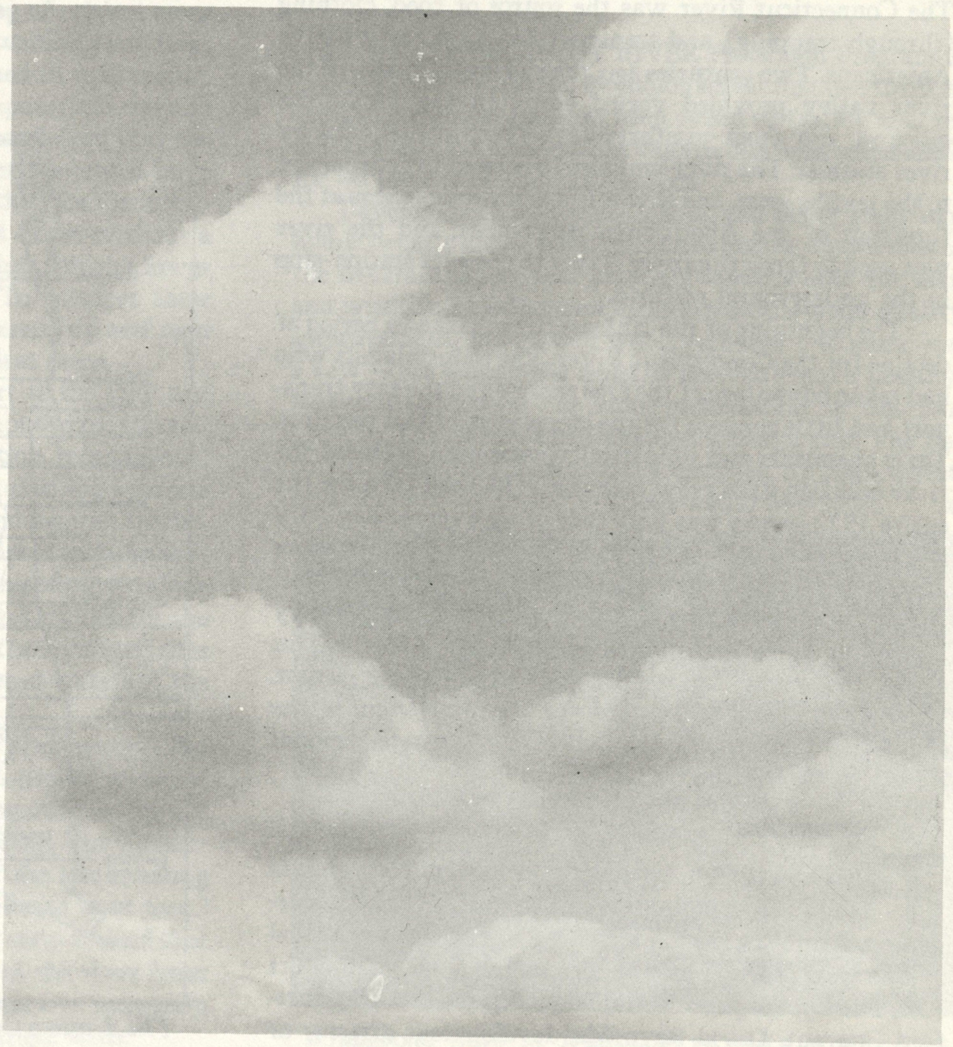
"*Cumulus* clouds smaller at sunset than at noon, a sign of continued fair weather."

"Clouds moving in opposite directions indicate rain in about 12 hours."

"If *cirrus* clouds (mare's tails) point upwards, wind and storm will follow; if they point downward, calm and dry weather are in store."

Clouds have always inspired poets and song writers. Shakespeare often refers to clouds. Clouds can indeed influence the way we feel, as the poets have intuitively understood.

As the summer gives way to fall, spend some time outdoors watching clouds. It's enjoyable and relaxing, and you might even start amazing your friends by predicting the weather. It's good to be reminded from time to time how impermanent it all is. Clouds keep us gently, softly in touch with that great truth. ■



A summer cumulus measuring several hundred yards on a side, may contain 25 to 30 gallons of water.

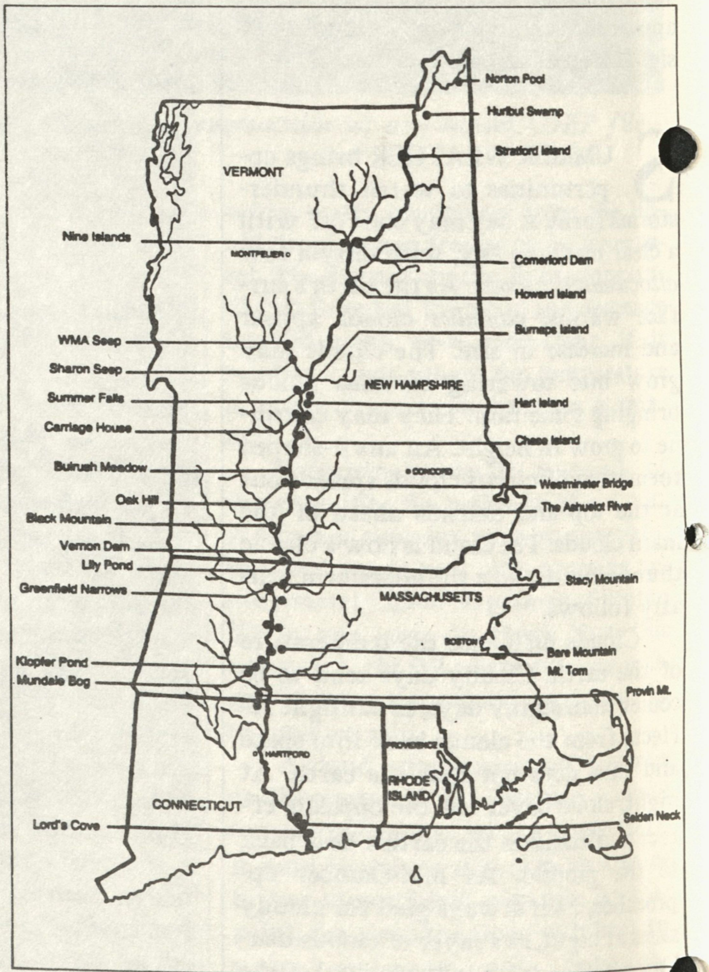
Saving New England's Oldest Highway

by
Steven S.W. Fletcher
Writing Intern
Dept. of Renewable Resources
The University of Connecticut

TWO HUNDRED YEARS AGO, Connecticut had only one major highway. That highway was called “Quinnehtukqut” by the Indians, the “long tidal river.” The Connecticut River was the source of food, clothing (through trapping), and transport for those early native Americans. Two centuries ago, the rich organic soils of the river valley provided varied crops. In the 1800s, the quickest and most comfortable way to travel was by river steamer. The river was also harnessed to give energy to the textile, grist, and saw mills. Connecticut was at the forefront of the Abolitionist movement, and the river was used to ferry runaway slaves to the next station-stop in the underground railroad.

The beginning of the 20th century marked a period of decline for the Connecticut River. The industrialists who had taken advantage of the free energy and the easy transport had little concern for the cleanliness of this resource. Toxic chemicals and industrial wastes soon polluted the river and fish kills grew common. The shad take for the entire 1922 season was half that of an average day only a few years before. And then nature, doing what nature always does, struck back. A series of spring floods, culminating in the hurricane of 1938, cleansed the river by destroying many factories along the banks. After this bit of house-cleaning, the river seemed to gain more respect. Recently, a wave of concern for the protection of the Connecticut River has resulted in a four-state regional effort by The Nature Conservancy.

THE CONNECTICUT RIVER Protection Program has caught the imagination of private individuals, corporations, and the media. This program has been featured in The New York Times science section, The Bridgeport Post, The Los Angeles Times, The Fairpress and The Hartford Courant. David Reynolds, development director of the Connecticut chapter of the The Conservancy, explained that the Connecticut River is seen as the backbone of New England and is a critical part of New England's heritage. “It is the ecological thread,” says Reynolds, “that ties the New England states together.”



The Nature Conservancy has been involved in the acquisition of critical areas along the entire length of the Connecticut River.

The Connecticut River Protection Program is a $10.3 million, five-year project designed to save 100 critical sites along the river. It is also the first time The Conservancy has been involved in a regional effort. It is an effort considered by Conservancy officials as "well worth the time and energy needed to save the last few untouched reminders of Connecticut's, and, in fact all of New England's, greatest highway."

THE NATURE CONSERVANCY is an international, private, non-profit group dedicated to preserving natural, undeveloped land. The Conservancy began in 1954 with the purchase of the Mianus River Gorge in New York's Westchester County and has been buying properties ever since. The group now owns over 1000 preserves overall, and has turned hundreds of additional sites over to local, state, and federal protection agencies. To date, The Conservancy has preserved over 3,000,000 acres across the United States.

The idea for the Connecticut River Protection Program was conceived by scientists and Conservancy staff. The Connecticut River seemed to be the most natural and reasonable reference point for the listing of critical areas mapped out by Conneticut's Natural Diversity Data Base. The program was subsequently launched in conjunction with the DEP and other centers of computerized natural resource information. David Reynolds explained that the large sandbar in the mouth of the river prevented large ships from using the river. Because of this, the Connecticut is the only major river on the East Coast without a large city at its mouth. This sand bar has left the lower reaches of the river relatively clean. To preserve these sites, The Conservancy and the DEP teamed up and used the data base to focus on the most critical areas.

Begun four years ago as joint effort of the DEP and The Conservancy, the Data Base is a computerized file and inventory of natural resources information. It can be used to evaluate natural areas by providing quick and accurate information on critical habitats and endangered species. This proved a valuable tool for The Conservancy, according to Reynolds, and allowed the organization a unique opportunity to work with the state. The kick-off for the program was in September, 1986, and the first two sites acquired were at the mouth and at the head waters of the river.

Selden Creek, in Lyme, a 101-acre freshwater tidal marsh, home to many rare plants and animals, is one of those sites. The creek also serves as nesting and feeding site for waterfowl, herons, and rails. (Recently, The Conservancy was responsible for saving one of the last breeding areas in this state for the piping plover and least tern.) Griswold Point, also in Lyme, is the long strip of sand that protects the tidal estuary at the mouth of the river from Long Island Sound. The protection of this area may help increase the dwindling populations of these birds.

At the other end of the river, the 440-acre Norton Pool site in New Hampshire was given to The Conservancy by the Champion International Corporation. The last old grove stand of lowland forest in New Hampshire will now be protected.

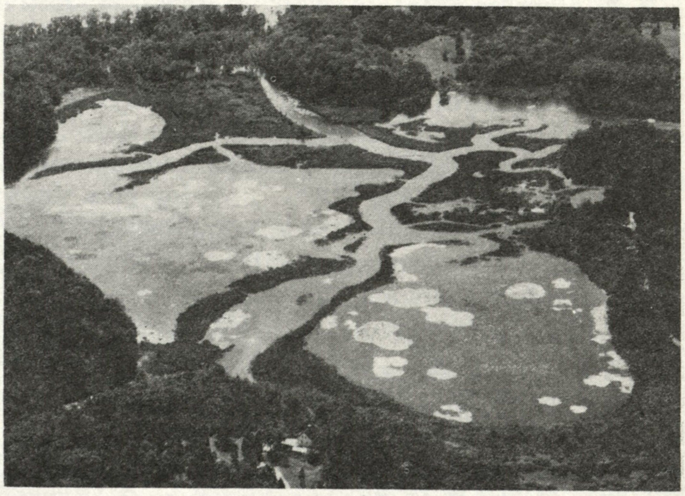
Recently, the program received 25 acres of land at Whalebone Cove in Lyme. Historically and ecologically significant, this site was once used as a watering stop for boats sailing to and from the Sound. It also remains as one of the most productive freshwater marshes on the river.

TODAY, THE CONSERVANCY is devoting its energies to saving one of the last three winter roosting spots of the bald eagle on the river. The eagles fish along the Enfield rapids because the water flows there even during the winter months.

The Conservancy has focused on natural communities able to continue in a natural state without the help of man. The principal communities targeted in the Connecticut River Protection Program include: floodplain forests, tidal and freshwater marshes, riverside seeps, outcrops, grasslands, bogs, certain wetlands, old-growth forests, rocky cliffs, pine/oak barrens, and habitats that house rare species.

THE CONNECTICUT RIVER Protection Program is off to a good start. Reynolds stated that one third of the $10.5 million goal has been raised so far. He also remarked that the Connecticut chapter has been responsible for 40 percent of the total project.

Development, as we all know, can bring great economic benefit to our state, but it can also be deleterious to the natural habitat that provides benefits both for man and wildlife. Flood control, erosion control, water quality improvement, and ground water recharge — to name just a few — are among the benefits derived from a healthy, balanced ecosystem. For more information on this program or The Nature Conservancy, write or call: The Nature Conservancy, Connecticut Chapter, 55 High Street, Middletown, CT 06457 — phone: (203) 344-0716. ■



Whalebone Cove in Hadlyme, recently acquired by The Conservancy, is a very productive freshwater marsh. (Photo courtesy The Nature Conservancy.)

The Monumental Life-Work of Rex Brasher

by
Doris E. Cook

IT'S UNLIKELY that anyone will ever displace John James Audubon as America's principal painter of birds. But there are rivals to this honor. Among them is Rex Brasher, who completed water color paintings of 1,200 species of birds and published a 12-volume work on the birds and trees of North America. He did all of this while living in a hidden valley in the hills of western Connecticut.

Born in Brooklyn, New York, on July 31, 1869, Brasher became dedicated to the observation and study of birds while still a boy. It was during those early years that Brasher decided on his life's work — to paint all the birds of North America.

WHEN HIS FATHER DIED, Brasher went to work at Tiffany's in Manhattan, where he learned photo-engraving and improved his skill in draftsmanship. Later, he worked in Portland, Maine, where the Maine coast offered many sites for bird watching.

The Portland job provided sufficient money for the boat he needed for his first long trip down the Atlantic coast, a trip that took him as far as the Florida Keys.

Brasher returned from the South in 1896, and started his bird painting. He had material for more than 300 complete paintings; he brought with him pencil sketches, color sketches, and habitat and landscape sketches — for *each* bird.

BRASHER frequently financed his work at the race track. His winnings provided funds for another trip to the Midwest, the Smokies, and the Gulf Coast. Betting losses, however, forced him back to Maine and a job on a fishing boat. For two years he endured cold and the hardships of the sea, acquiring a seaman's vocabulary, and accumulating sketches of sea birds.

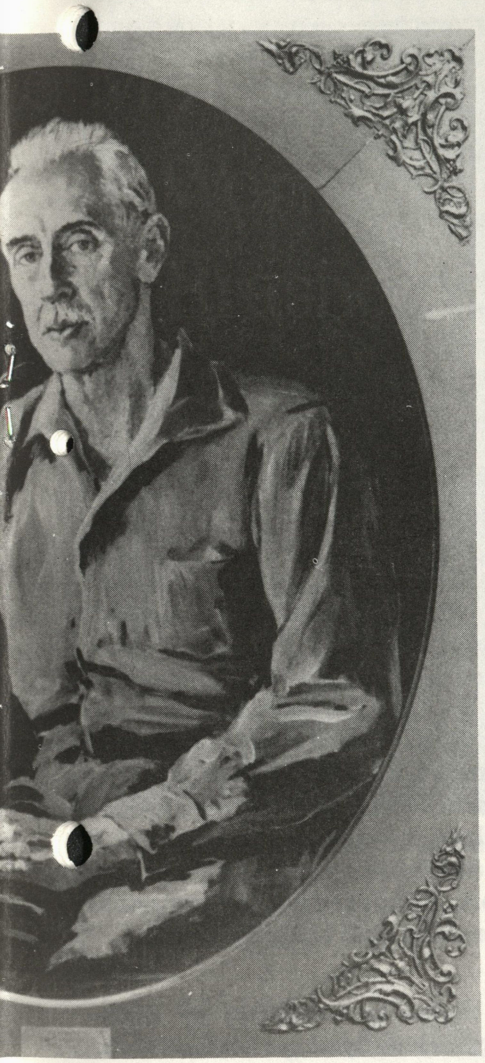
With improving luck at the track, he traveled once more, this time through the Southwest, eventually ending up in the Willamette Valley in Oregon. This was the last of Brasher's field trips; it took him more than two years.

In 1904, he brought back over 600 sketches of nearly every bird species he had encountered, as well as drawings of many Western trees and shrubs. He had notebooks filled with notes on colors and habitats, and color sketches of the birds. While he continued to devote himself to his great task, he supported himself for the following five years as usual by betting. Then his painting began to receive recognition. The *Brooklyn Eagle*, March 14, 1907, ran a full-page story on him, with photographs. He also received commissions for art.

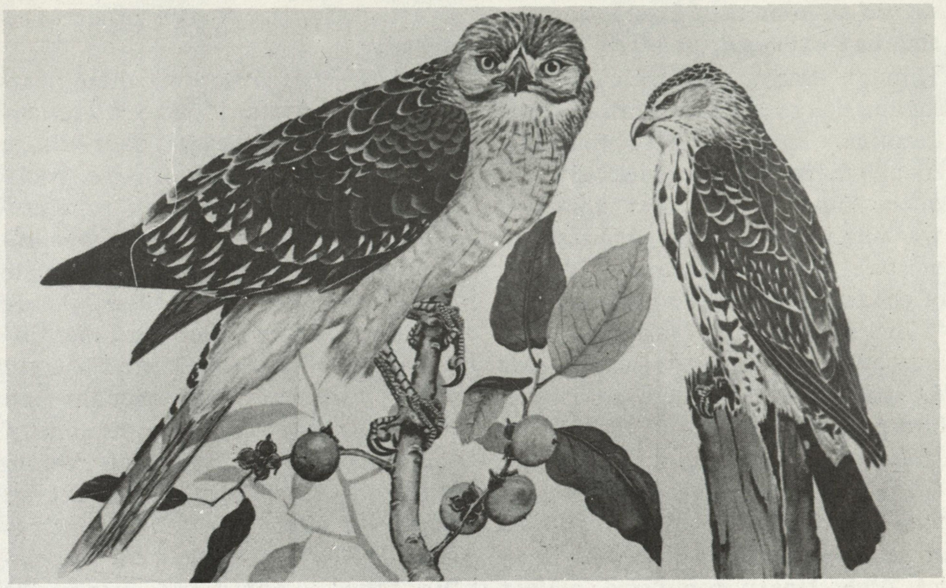
AFTER BRASHER had completed painting almost 500 birds, he began to feel uncertain about the colors he was using and to doubt other aspects of his renderings. Reaching for perfection, he sought the help of the "bird skin" collection at the American Museum of Natural History in New York City. Brasher checked his drawings against the skins for bill-curve and size, anatomy of legs and feet, and feather color.

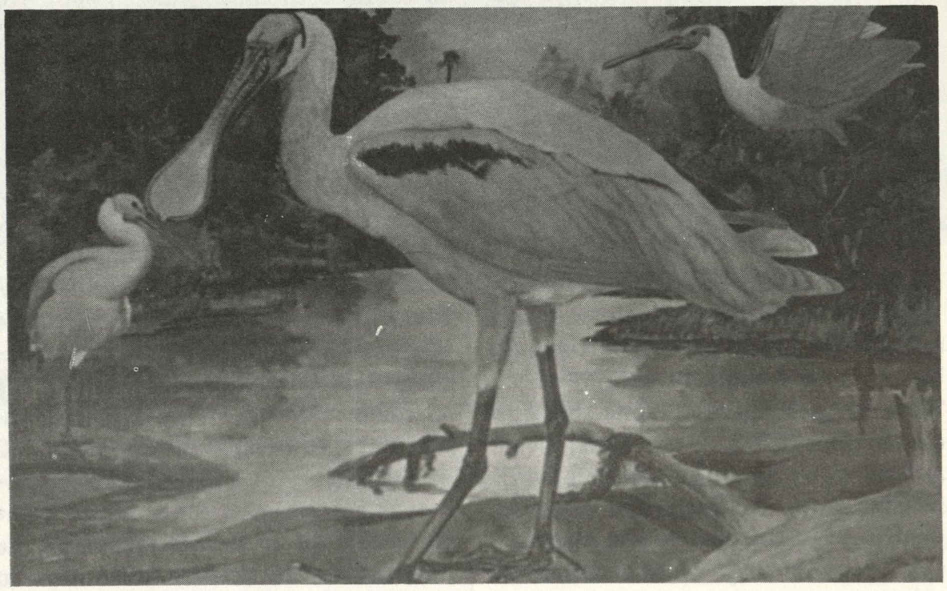
While at the Museum, he met one of the finest painters of the time, Louis Agassiz Fuertes. Following that meeting, Brasher became even more despondent and self-critical and began the wholesale destruction of his work. But, with financial and emotional support from a niece, Brasher began again

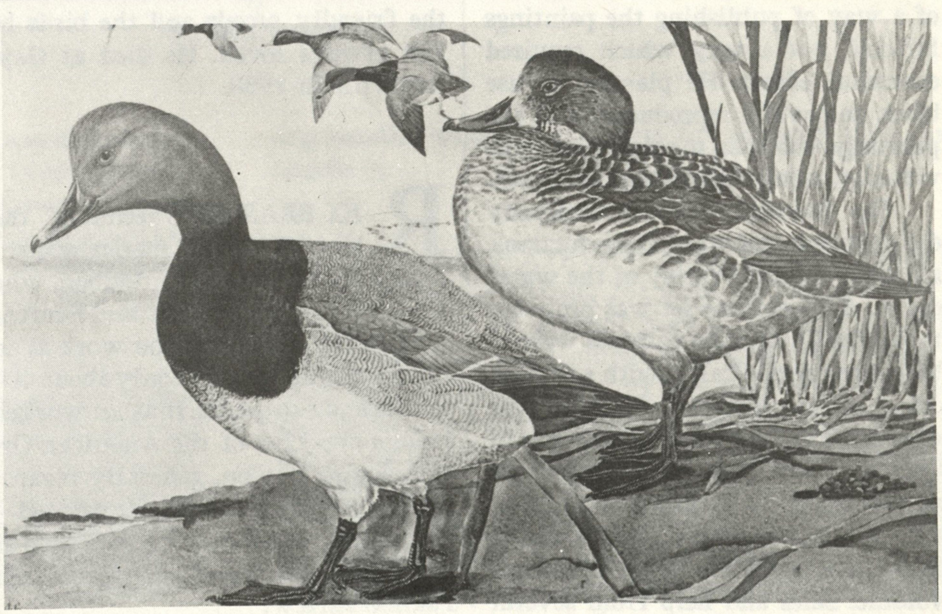
THE PRESIDENT of the Audubon Society, T. Gilbert Pearson had



(Left) Self-portrait of Rex Brasher (1869-1960), the Connecticut artist who attempted to paint, from life, every species of bird in North America. (Top right) Brasher's painting of the red-shouldered hawk, adult and immature. Photo by Alyson Blow. (Middle right) Adult male and female redhead duck. Photo by Alyson Blow. (Bottom right) Roseate spoonbill. An exhibit of Brasher's work will be held at the Connecticut State Museum of Natural History in Storrs from September 6 to October 24, 1988.







shown an interest in Brasher's project and had extended an offer of help. Through Pearson, Brasher received a commission to paint the birds of North Carolina. This brought him $700, enough to finance a long-desired escape to the country. With that money, he was able, in 1911, to buy a house on the western border of Connecticut, west of the town of Kent, which he called "Chickadee Valley." He made it liveable even in winter, worked at odd jobs and carpentering, and contributed bird paintings, notes, and anecdotes to *Nature Lovers' Library*.

For the next 15 years, Brasher devoted himself to finishing his project of painting the birds of North America. When finally completed in 1924, he had over 800 paintings of 1200 species and subspecies, with 3300 individual bird pictures. He tried selling the paintings to museums, but none had space or funds.

BRASHER wanted school children, college students, teachers, and all bird lovers to see his paintings, but he was unable to exhibit them. Then he got an idea. Despite the high cost of color plates, he contacted several publishers, seeking to put his work in book-form. All estimates were beyond his means. But, where there's a will, there's a way. Brasher conceived of a way of publishing the paintings himself, but a way which required enormous effort. He planned to use black and white reproductions of the paintings, and then to color them individually, using stencils and air brush.

The Meriden Gravure Company did the black and white reproductions, allowing for the overlay of the water colors. A 12-volume set was projected to sell for $1,200; the volumes were to be shipped periodically, with payment due on receipt. A total of 97 orders was received. The first volume went out in October, 1929, just before the stock market crash. To counter the cancellations which resulted, it was decided to raise the subscription price to $200 per volume. Sales and help from several quarters saw the project through financially.

In 1932, a little over three years later, Brasher completed his arduous task. He was 63 years old. While he had the help of assistants on backgrounds, it was he himself who colored the birds in nearly 90,000 reproductions to make 100 complete 12-volume sets. Today, these sets are highly-prized by collectors. Final disposal of the original paintings was ever on Brasher's mind. He thought first of giving them outright to the state of Connecticut, hoping the state would build a museum to house and exhibit them. The state did have the paintings from 1934 to 1938 when the Legislature failed to appropriate money for the museum and they were retrieved. From Hartford, they went to Washington, D.C., to be exhibited as "Birds and Trees of North America" in Explorers' Hall of the National Geographic Society.

In 1941, the paintings again became the property of the state of Connecticut, going first to the State Library in Hartford and, in 1953, to the Harkness Memorial State Park in Waterford. Available wall space in the 42-room mansion of the Harkness estate afforded room to display only 180 paintings at a time, so a rotating exhibit was necessary. Brasher never went to Waterford to see his paintings. He remained in the western hills, close to the friendly woods and the birds he had always loved. He died at Gaylordsville in 1960.

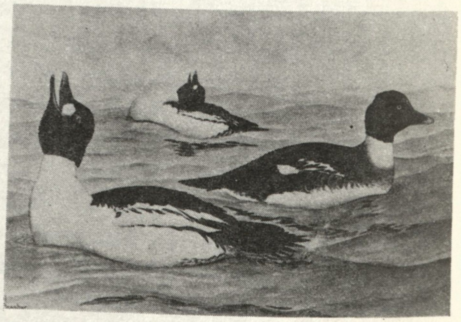
REX BRASHER'S record of the birds of North America was encyclopedic for its time. Audubon, who did not go to the Far West, and Fuertes, who had to concentrate on work as an illustrator, had painted only about 400 species and subspecies. Brasher worked from a checklist of the American Ornithologists' Union, generally regarded as virtually complete. He painted — *from life* — birds now extinct, such as the heath hen, passenger pigeon, and Eskimo curlew.

Naturalists called Brasher's work "the most complete pictorial referenc to the birds of North America." *Time Magazine*, comparing Brasher with Audubon and Fuertes, said: "Rex Brasher alone had simultaneously the time, the ability, the monumental persistence, and the hard-headed fidelity to do all."

Brasher told an interviewer that he had always hated steady work, and took jobs only because he had to. He said his prime goal had been accuracy. Nearly all of the birds in his paintings were life-size and in action. He could not conceive of a world without a bird song, without their color and beauty.

Brasher's original watercolors are currently housed at The University of Connecticut. The Connecticut State Museum of Natural History will exhibit 30 Brasher watercolors in the Benton Gallery of the Jorgensen Auditorium at UConn in Storrs from September 6 through October 24, Monday through Friday, from 11 a.m. to 4 p.m., and Saturday and Sunday from 1 to 4 p.m. Admission is free. For further information, call (203) 486-4460.

(The author is a resident of Hartford. She was cataloger and archivist at the Connecticut State Library (1938 - 1962) and Manuscript Librarian at the Connecticut Historical Society (1962-1974). She met Brasher just once.) ■



Golden-eye ducks; two adult males and one adult female. Photo by Alyson Blow. Brasher's accomplishment is a testimonial to a man who decided on a goal and let nothing stand in the way of its completion.

The Flaherty Field Trial Area in East Windsor has become the showplace for field trials on the East Coast.

A Certain Loftiness

At Flaherty, the pointing dogs show their class

by

Robert Paier

WE LIVE IN A COMPLEX, ultra-specialized society, where most of us are content to remain somewhere short of a clear definition of who we are and what we're doing. But, if you are lucky enough to encounter something that's true and pure and clean, where what you see is what you get, you are grateful for that. And you are a better, possibly even nobler, person for it.

The Dr. John E. Flaherty Field Trial Area in East Windsor is one of the special places where you can experience that kind of purity. What you find at Flaherty, if you keep your eyes clear and open, is an honest relationship with man, animal, and nature. It is a beautiful thing to witness. Things seem to go together like a symphony. Any discord, any sour note, would be immediately noticeable. And you don't have to be a hunter or a sportsman or dog handler to see it; it's there for anybody who can handle it.

IN 1947, THE STATE OF CONNECTICUT acquired a parcel of land totaling 261 acres, known as Pelton's Pasture. In 1985, an adjacent piece of property with an area of 100 acres, was acquired. Because of the property's location, its easy access right off I-91, the general topography, as well as cooperation among the DEP, local government, and private citizens, Flaherty Field Trial Area has become one of the top wildlife recreational spots in the state. "We have a big stake in this area," says Peter Bogue, assistant director of DEP's Wildlife Bureau. "The DEP has expended thousands of man-hours and dollars on habitat

"In the growing sport of field trials", says Rich Garini,"no bird is ever billed."

maintenance and development, which has made it recognized as a premier site. Now it is a showplace for field trials in the whole state." And, in fact, beyond. People come from all over the eastern U.S. to visit this area. Recently, it has become a model for planning a similar area in New Hampshire.

The fundamental use to which the area is put is for field trials for the pointing breeds of dogs, a competitive sport in which man and animal work together in close, sometimes uncanny, rapport. Flaherty Field Trial Area is usually reserved 23 weekends a year for this purpose. But, the dog trials are by no means the only use for the area. It is also a wildlife management area and is open to sportsmen during the fall for small game hunting, when field trials are not being held. Flaherty is also available for informal dog training most of the year. During the winter, it is a superb spot for cross-country skiing. The two-mile service road, used by skiers, also makes the area excellent for jogging. And, on occasion, you can find the East Windsor High School track team working out here. And finally, for you and me, people come here for casual nature walks, for photography, birdwatching, and wild berry and nut picking.

THERE ARE OTHER SECONDARY BENEFITS derived from this area. As a visit on just about any weekend will demonstrate, people travel from far away to enjoy this spot. Simply as a tourist attraction, Flaherty has been a tremendous economic benefit to the state. There is also the less tangible benefit of being a focal point for many diverse groups to work together in harmony. An example of this is the regularly-held dog show at the Windsor High School, which is put on in conjunction with the field trials. With state, town, and education people working on one project, the result is a growth of mutual respect and overall environmental awareness. "All factors combine to make this a very successful and cooperative arrangement," says Bogue. "This multiple-use facility draws very positive feedback from people in the field. We have here a very clear demonstration of the harmonious relationship which is possible if we work together toward the same goals."

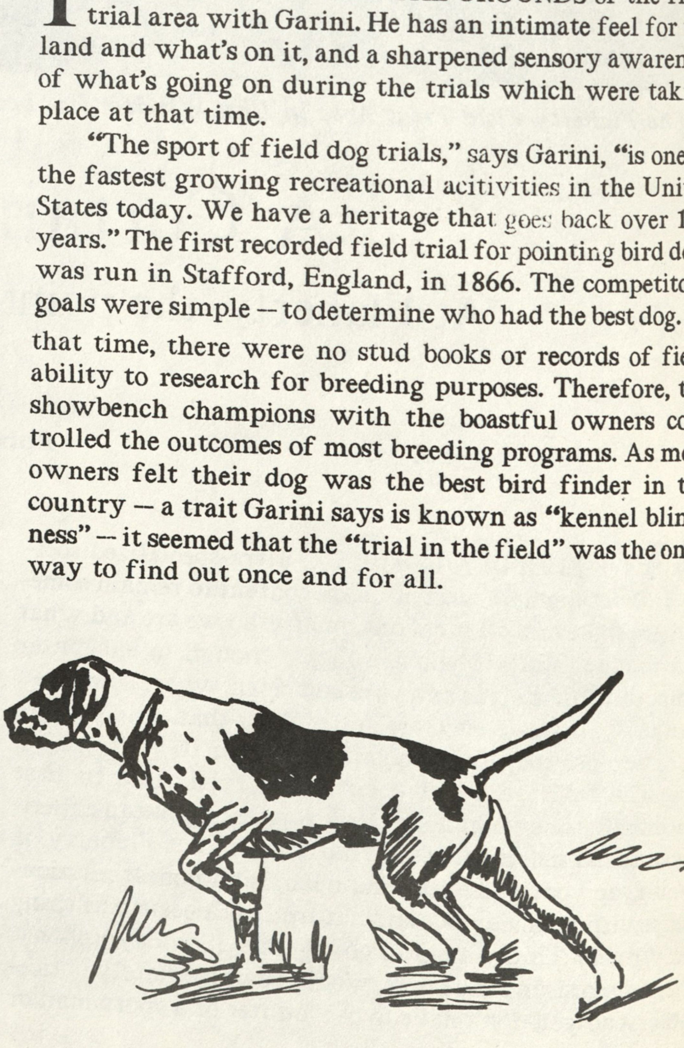
RICH GARINI IS PRESIDENT of the Dr. John Flaherty Field Trial Association. This Association functions as a central coordinating group for some 14 affiliated clubs. Each club has one particular breed of dog, and clubs sponsor the 25 to 30 field trial events which occur each year. Some of the popular breeds are the German shorthaired pointers, Gordon setters, Brittany spaniels, and English pointers and setters.

Garini has played a major role in the development and success of Flaherty Field Trial Area. Like many outdoorsmen, he not only feels great respect for the natural world and the creatures in it, but he wants to share that awareness with others. Since Garini became president of the Association in 1982, he has brought new energy and vision which have enabled the area to grow to the carefully-planned model area it is now.

"We couldn't have done this without the help of the DEP," says Garini. "When you stop to consider that this all started in 1947, it is apparent the state of Connecticut has long recognized that assessing the recreational needs of its citizens and planning for long-range recreation programs is a social obligation. To say that the thousands of citizens, sportsmen and non-sportsmen alike, who utilize the area are grateful is an understatement."

IT IS A JOY TO WALK THE GROUNDS of the field trial area with Garini. He has an intimate feel for the land and what's on it, and a sharpened sensory awareness of what's going on during the trials which were taking place at that time.

"The sport of field dog trials," says Garini, "is one of the fastest growing recreational acitivities in the United States today. We have a heritage that goes back over 100 years." The first recorded field trial for pointing bird dogs was run in Stafford, England, in 1866. The competitors' goals were simple -- to determine who had the best dog. At that time, there were no stud books or records of field ability to research for breeding purposes. Therefore, the showbench champions with the boastful owners controlled the outcomes of most breeding programs. As most owners felt their dog was the best bird finder in the country -- a trait Garini says is known as "kennel blindness" -- it seemed that the "trial in the field" was the only way to find out once and for all.



A platoon of Brittany spaniels awaits further orders at Flaherty Field.

The competitions in England triggered an interest in improving dog breeds that soon spread to the United States. The earliest recorded field trial in America was held in Memphis, Tennessee, in 1874. Although this event only attracted nine competitors, it fired the imagination of sportsmen of the time and, coupled with the great American competitive spirit, formed the basis of a new and exciting sport.

"It is important to remember," says Garini, "that pointing dog field trials are a non-consumptive, blank-pistol form of competitive hunting. The trials provide a wildlife-oriented association with nature in which the kill is not a part of the total experience. In these types of field trials, no bird is ever shot."

THERE IS, OF COURSE, A LOT OF SUBTLETY to the trials that the novice would not see. A basic outline of what does occur, however, may be helpful. The idea in the field trial is to determine how well dog and man can work together, how wide a range the dog can take and still be under the control of its handler. The dog runs out ahead, covering a portion of the 361 acres of the field trial area, looking for a game bird. When he does find it, the dog stops and comes to a "point." As the judges and handlers, who are following on horseback, approach the scene, they dismount and join the scenario. The handler tries to locate and flush the bird into flight, then fires a blank pistol to simulate an actual hunting situation. But, as Rich Garini stresses, "No bird is ever shot during this type of field trial." If the dog remains "steady to wing and shot," the sequence is completed and the judge will score this particular piece of bird work high on his sheet. The handler then releases his dog to run out ahead, and the sequence begins again.

Beyond this, there are slightly different requirements, depending on the kind of stake. The relative distance between dog and handler varies according to the breed and class of the dog -- puppy, derby, gun-dog, or all-age dog.

What, then, do the judges look for? To a great degree, the judges are looking for intangibles. "I can only describe it as a certain loftiness," says Garini. "It's a flowing, gazelle-like quality when the dog is running, a sense of focus and purpose. Then, when the dog is holding the point, the judges are looking for how still, how rigid, how intense the pose is. The dog should be intense, purposeful, lofty, and of noble appearance."

NOBILITY. HONOR. Key words in dog trials, if Garini is to be believed. It wasn't till much later in the day, after having gone around the course a couple of times, that I finally understood just what Rich Garini was talking about when he said this is a sport involving honor and nobility.

"Look. Over there. Can you tell what's happening?"

I saw one of the dogs, a Brittany spaniel, holding a point. It was nice, but nothing to write home about.

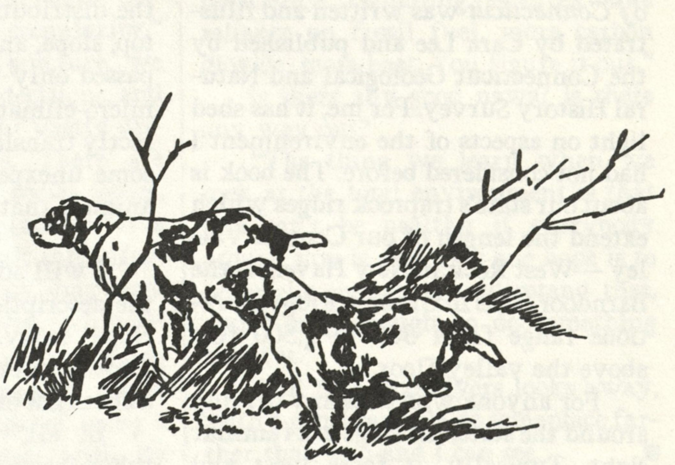
"No, not that dog. The other one."

I hadn't seen it right away, but another dog, the pointing dog's brace mate, had appeared on the scene. But instead of going into his own point, and instead of "stealing the point," or pushing in ahead, the second dog just stopped dead about 10 yards back. During that time, the handler appeared, flushed the bird, and the dogs took off again.

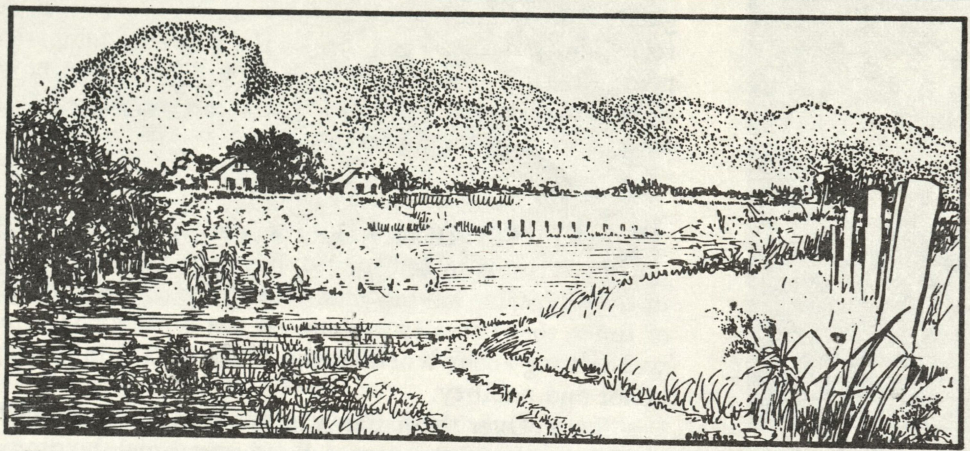
"What that second dog did was called 'honoring the point,'" said Garini. "The first dog gets credit for the point, and the second dog holds back. This dog also gets credit for honoring the first dog's point. The second dog did the gentlemanly thing. That's where you can see the nobility of this sport. There is a very strong code of ethics here, both for the handlers and for the dogs."

It was, as Rich Garini would say, "something lofty." And that sense of loftiness is available to anyone who takes the time to visit a field trial in action. It's worth it.

For further information on field trials and Dr. John E. Flaherty Field Trial Association, please contact Rich Garini, 8 Carol Street, Enfield, CT 06082, or phone: (203) 745-9684. For further information on the management of the Flaherty Field Trial Area, please contact the DEP Wildlife Bureau, 566-4683. ■



Map of the Month



Sleeping Giant Park will be a good bet when foliage season arrives. (Illustration by Elaine Avis Matthias.)

More Tips for the Weekend Explorer

by

Alan Levere

Senior Environmental Analyst

IN THIS MONTHLY COLUMN, and with so much information to choose from, there are many things I want to write about before the good exploring weather is gone. But, when I figure out the number of good weekends there are, versus the number of places to go, it turns out there just aren't enough weekends.

Still, though, there are two publications just perfect for the armchair Connecticut enthusiast or the weekend explorer, especially with the fall foliage season sneaking up on us.

WEST ROCK to the Barndoor Hills: The Traprock Ridges of Connecticut was written and illustrated by Cara Lee and published by the Connecticut Geological and Natural History Survey. For me, it has shed light on aspects of the environment I had not considered before. The book is about our state's traprock ridges which extend the length of our Central Valley – West Rock in New Haven to the Barndoor Hills in Granby. Ridge elevations range from 300 to 1,500 feet above the valley floor.

For anyone who does any driving around the state, the ridge is a familiar sight. Typically, it faces west and slopes fairly evenly back into the landscape on the eastern side. Quarry activities on these ridges are the source of much of the crushed gravel in the state.

The story of the ridge wouldn't be complete without a geologic description of how it formed, and that description is here in this book.

Now, I have seen, driven by, and hiked these ridges. And I knew about the rock quarrying activity. What I didn't know was the history of the industry and I got that from this book. But the traprock ridges are home to much more than stone.

Cara Lees excellent explanation of the distribution of flora types on the top, slope, and base of the ridge is surpassed only by her description of the micro-climates on the ridge. This directly translates to micro-habitats, and some unexpected types of plants and animals that make their homes there.

I will admit to being surprised by the description of towers that dot the ridge today. Heublein is the best-known, but the three or four others are a checklist of additional places to visit.

In all, this 60-page, black and white book, with more than a dozen photos, is just about guaranteed to teach you something new.

PART OF THE RIDGE that traverses the Central Valley has its own individual identity. When viewed from a distance, this formation resembles the profile of a reclining man. Add this to its massive size, and you get its very appropriate name: The Sleeping Giant.

In *Born Among the Hills: The Sleeping Giant Story*, author Nancy Sachse of the Sleeping Giant Park Association (SGPA) tells you the facts, legends, and fiction that give the Giant its unique character. The reader will find in this 47-page book an introduction to the Giant and its environs; stories of the resort-era days, when the ridge was actually farmed and estates arose at the foothills; the fight to keep the Giant from being quarried into crushed stone for local roads; and an overview of how the Giant is managed and maintained, a job now shared by the SGPA and the DEP.

You will find plenty of places to hunt for, on and off the trails, on your expedition to the Giant. Remains of a pathway of 350 steps carved into the rock still can be found, traces of an ox road built to haul materials up for a summer cottage (right on the Giant's chin!), and mine holes from days gone by when the potential for mining copper ore was investigated, all await inspection. Even Axle Shop Pond has a story to its name.

One of the delightful stories about the Giant is of some school boys on a day in April, 1873. In search of a cave, they inadvertently discovered what would become known as "The Mount Carmel Mystery."

THESE FASCINATING BOOKS can be ordered by sending $5.00 for *West Rock to the Barndoor Hills* and $3.50 for *Born Among the Hills*. Connecticut residents please add 7.5 percent sales tax and $2.00 to cover all handling. Please send to: DEP-NRC, Map Sales, Room 555, 165 Capitol Avenue, Hartford, CT 06106. ■

The Man Who Could See the Future

by

Robert Paier

BOB MYERS is a senior environmental analyst with the DEP's Solid Waste Management Unit. For the past 13 years, he has devoted his time, energy, and considerable intellect to the resolution of a problem which he considers to be the single most critical issue facing Connecticut citizens today. "It's almost certain that we're heading for a crisis in solid waste disposal," says Myers with visible sadness. "We must address this issue not only intelligently, but very quickly."

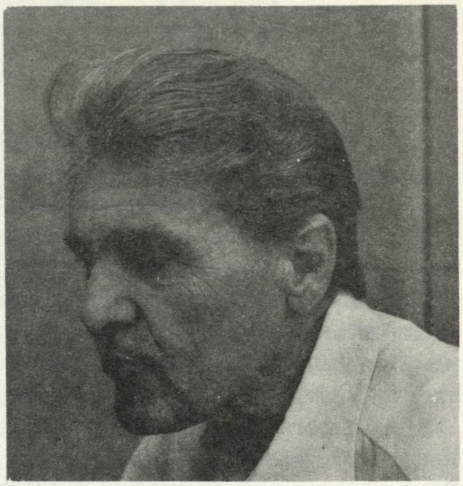
Bob Myers is blessed, or cursed, depending on how you look at it, with a wider temporal perspective than most. He is aware of the historical processes which got us to where we are, and he perceives -- or envisions, or intuits -- the next few moves on the board. He is not alone in that ability. Card players claim to have it, on occasion. Sometimes the cop on the beat seems to have it. There are a few guys in the NBA who appear to know things about three seconds before they happen. And, if they're good, if they have a real grasp of what they're doing and are focussed clearly on their job, environmental analysts have it. And, while Myers will acknowledge that he tries for it, typically he takes the low-keyed approach. "I think a lot of it is nothing more than a willingness to learn, to consider new possiblities, to go beyond current patterns of thought. You need a feeling of security in your mind. I think you get that at a very early age, maybe even in the first few hours of life."

It becomes clear in a very short time that Bob Myers is a man willing to go beyond current patterns. Myers was born in Springfield, Mass., and graduated from American International College with a degree in biology. "Even though I studied biology, most of my jobs have involved engineering. I found that I naturally had that kind of analytical, problem-solving mind."

After leaving college, and prior to coming to the DEP, Myers had a number of high-level, high-tech jobs, which brought him to the cutting edge of current engineering. At one time, he ran the largest, privately-owned acoustical lab in the United States, where he did reserach on a patented process of sound-proofing jet engine test cells. He worked on designing control systems for large buildings and systems. In that job, he designed control systems for the Con Edison Indian Point nuclear power plant and the Combustion Engineering prototype nuclear submarine. He has designed X ray installations and, during a two-year stint in the Navy, taught intensive courses on radar. "I've been fortunate," says Myers, "in that I've always enjoyed my jobs."

THEN, IN 1975, having achieved success in pretty much everything he attempted, Bob Myers decided it was time, as he puts it, "to give something back to society." He took a civil service test and, not surprisingly, was ranked first. In March of that year, he began working for the DEP in the Solid Waste Management Unit.

"The problem of solid waste disposal is staggering in its complexity," says Myers. "At every juncture, we are faced with multiple decisions, and each decision brings about vastly different economic results. There are practical considerations, social issues, and personal motivating factors." It is Myers' job to assimilate all this information, to take the widest, long-term perspective, and then advise individual towns or groups who are struggling with solid waste problems. "I try to put myself in the position of being a citizen of each town I deal with. By doing that, by listening, by making the best-informed presentation I can, it is possible to win people over and to effect change."



Bob Myers of DEP's Solid Waste Management Unit.

MYERS is hard-pressed to find things he does for recreation only. "My vocation is my avocation," he smiles. But he does confess to love sailing and he speaks with quiet pride of his house in Haddam Neck. "It's an old Cape Cod house, dating back to at least 1691, and nine generations of one family lived in it." By furnishing it with carefully chosen antiques, Myers says he lives in what is virtually a "little museum."

And what, then, about the future? What does Myers see around the next corner? "I don't see Armageddon, but we are faced with problems of overpopulation, dwindling resources, more reliance on fossil fuel, more carbon dioxide, more heat. You figure it out."

Is there any good news? Is there any way out?

"The thing we learn when we look at the total environment is that you can't be healthy if everybody around you is sick. Our one hope is to be bright enough to understand that, and strong enough to do something about it."

And then Bob Myers looks away, with a pensive smile, to someplace farther than you and I can see. ■

The Bulletin Board

White Memorial

The Seventh Annual Family Nature Day is again being sponsored by the White Memorial Conservation Center. This event will offer nature-oriented activities for children and adults, featuring "Ray Cycle," Connecticut's resource recovery super hero. It will take place on Saturday, September 24, 11 a.m. to 5 p.m., on the grounds of the White Memorial Foundation, south of Route 202, between Litchfield and Bantam. For more information call the Center at (203) 567-0015.

The grounds of the White Memorial Foundation and Conservation Center are open at all times. There is a natural history museum, with displays of natural features and wildlife, and an extensive nature library. Visitors may enjoy the 4,000-acre wildlife sanctuary, 35 miles of trails for hiking and horseback riding, and two family campgrounds. ■

Environmental Review Team

The Eastern Connecticut Environmental Review Team has moved to a new location. The new address is Environmental Review Team, Eastern Connecticut Resource Conservation and Development Area, Agricultural Center, Route 154, P.O. Box 70, Haddam, CT 06438-0070, telephone (203) 345-3977. Office hours are Monday through Friday, 8:30-4:30. The ERT coordinator is Elaine A. Sych.

The Eastern Connecticut ERT is a group of professionals in environmental fields drawn together from a variety of federal, state, and regional agencies. Specialists on the team include geologists, biologists, foresters, soil scientists, sanitarians, archeologists, recreation specialists, engineers, and planners. The ERT operates with state funding under the supervision of the Eastern Connecticut Resource Conservation and Development (RC&D) Area — an 86-town area.

The team is available as a public service at no cost to Connecticut towns.

For additional information and ERT request forms, please contact the ERT coordinator. ■

LIS Course

This fall, the Long Island Sound Taskforce of the Oceanic Society and the Greenwich Chapter of National Audubon will offer a course that introduces the ecology of the influence of man on Long Island Sound. The instructors are experts from government agencies and universities, but the program is designed to be understandable to any persons interested in the Sound.

The course runs on three consecutive Thursday evenings beginning September 22, 7-9 p.m., at the Stamford Marine Center. There will be a field trip to Cove Island Park on Saturday, October 1. For an additional fee, participants have the option of a study cruise on the *R/V Oceanic* and a visit to the Maritime Center at Norwalk.

Cost: $50 for members of Greenwich Audubon or LIST, $60 for nonmembers. Add an additional $15 for members, $20 for non members for the boat trip and tour of the Maritime Center. Payment is due by September 20. ■

Whale Watch

The Long Island Sound Taskforce of the Oceanic Society is sponsoring its annual fall whale watch, September 23 through 25, in Provincetown, Massachusetts. Humpback, fin, minke, and right whales, as well as white-sided dolphins, have been seen on previous whale-watch trips. As an added attraction, participants may choose between a nature walk or bird banding demonstration at the Massachusetts Audubon Sanctuary on Wellfleet Bay, Saturday morning.

Evenings are free for exploring Provincetown and environs; the program ends early Sunday afternoon for those with long drives ahead. Fees for the weekend cover two nights (Friday/Saturday) lodging at the Provincetown Inn, two trips aboard a whale-watching vessel, two breakfasts and two dinners, a nature walk or bird banding demonstration, and leaders' fees. Transportation is not provided.

Cost for the program: $160 for members, $190 for non-members (includes LIST membership). Full payment is due by September 16, 1988. ■

Algonkian Village

Visitors to the Algonkian Village at the American Indian Archaeological Institute in Washington, Connecticut, have an opportunity to gain insights and ask questions about the culture and lifestyle of the Eastern Woodlands Indians. Each weekend until the end of Thanksgiving week, specialists are demonstrating their skills and sharing their expertise. Some interpreters are Native Americans and others have learned native crafts lifestyles.

On weekdays, a member of the AIAI Education Department will usually be in the village. In addition to helping visitors understand the history of the Eastern Woodlands Indians, the village staffers will discuss issues of concern to contemporary Indians of our region.

A typical Indian encampment of the 1600s, the Algonkian village was built a few years ago with only stone tools, just as it would have been built during the 17th century. The village includes two styles of wigwams, a long house, and dugout canoe.

Growing in the village is a traditional garden of the vegetables the Eastern Woodland Indians refer to as "the three sisters" — beans, squash, and corn. Planting the three vegetables together was an ingenious technique: the cornstalks provide the support for the climbing beans and the large leaves of the squash plant help retain moisture in the soil and inhibit the growth of weeds.

AIAI also has indoor exhibits on [illegible]orical and contemporary native themes, Connecticut's only mastodon skeleton, and artifacts from local archaeological sites. A simulated archaeological site is currently being rebuilt.

AIAI is open Monday to Saturday from 10 a.m. to 5 p.m. and Sunday from 12 to 5 p.m. For further information, please phone (203) 868-0518. ■

For Your Information

by
Leslie Lewis
Citizens' Participation Coordinator

The following is a listing of towns which will be sponsoring or participating in Household Hazardous Waste Collection Days this fall. **Dates are tentative;** contact your town's conservation commission, health department, or public works department for [illegible]ore information on collection dates, [illegible]imes, and locations.

Southington -- September 10
Suffield -- September 17
Branford -- September 24
Watertown -- September 24

North Branford -- October 1
New Britain, Berlin -- October 1
Salisbury, Sharon, Canaan, North Canaan -- October 1
Wilton, Weston -- October 15
Stratford -- October 15
Wallingford -- October 15
Fairfield -- October 22
Manchester -- October 22
Bristol -- October 22

Bethel, Brookfield, Danbury, New Fairfield, Newtown -- November 5
Bridgewater, Kent, Roxbury, Sherman, Warren, Washington, New Milford -- November 5
Torrington, Litchfield, Harwinton, Morris, Goshen -- November 19
Stamford -- November 19

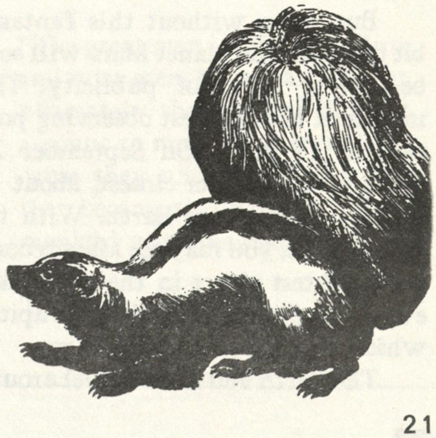
Milford (dates to be
Redding, Easton determined)
Wethersfield, Newington
Stonington ■

Conservation Officer Joseph Balint, of the DEP's Bureau of Law Enforcement, was presented with an award from Commissioner Leslie Carothers. While on duty in the state's Eastern District, Balint drew on his experience and good judgement, to successfully intervene in a suicide attempt. Balint is a former police officer, has been with the DEP for 19 years, and served with the 3rd Marine Division in Vietnam. Looking on is DEP Deputy Commissioner Dennis DeCarli. (Photo: Margot Callahan)

The Unwelcome Guest

The striped skunk (*Mephitis mephitis*) is a species commonly implicated in nuisance wildlife situations. Being primarily nocturnal, skunks need places to rest or sleep during the daylight hours, and man-made structures are often adopted as dens. The skunk's ability to dig often leads it into basements or foundations under houses, barns, or other buildings.

Although skunks are not aggressive, their propensity to spray when threatened usually classifies them as unwelcome house guests. Removal can be accomplished either with a live trap or by waiting for the animal to leave during the night in search of food. However, the job should not be considered finished when the skunk is gone. To prevent recurrences, the homeowner should determine how the skunk gained access to the building. All openings should be covered with wire mesh, sheet metal, or concrete. Wherever the skunk can enter by digging, extend the barrier one and a half to two feet into the soil. Also, any garbage, refuse, or compost that would attract skunks to the vicinity of buildings should be stored in sturdy containers with tight-fitting lids. ■



Trailside Botanizer

Wild Cucumber

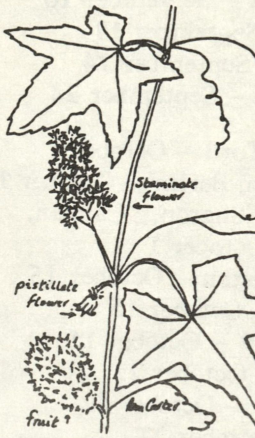
by
Gale W. Carter
Illustration by
Pamela Carter

Wild cucumber (*Echinocystis lobata*) or balsam apple, as it is sometimes called, is a member of the gourd or cucumber family (*Cucurbitaceae*).

A number of members of this family, such as melons, cucumbers, squash, and pumpkins are economically important. However, the few species that grow wild in the Northeast, like wild cucumber, have little value, although the juice from its fruit was once used for the treatment of sunburn and freckles.

Wild cucumber is a lush, rapid-growing vine that climbs by means of its branched tendrils. It is often found growing in tangled masses in rich soil along roadsides and riverbanks.

The alternate leaves are light green and maple-like, and usually have five pointed lobes. Blossoming time for wild cucumber is from June to October.



An unusual feature of this plant is that it often has both flower and fruit present at the same time. The small greenish-white flowers are six-petalled. Both male and female flowers are found on the same vine but are separate. Male flowers are numerous, arising from the axil of the leaves, and are on long stalks in loose clusters. The female flowers may occur in the same leaf axil, individually or in small clusters, below the male flowers.

The fruit of this species resembles a small cucumber -- hence, the common name -- and is not edible. Its four seeds are found in deep pockets within a spiny external cover.

The generic name is derived from a combination of two Greek words -- *echinos*, meaning "hedgehog," and *cystis*, meaning "bladder," which describes its spiny fruit. The lobed nature of its leaf is the reason for the species name, *lobata*.

Wild cucumber is sometimes used as an ornamental around arbors, and the fruit is used in dried arrangements.

The bur cucumber (*Sicyos angulatus*) is a similar species, but is five-petalled, one-seeded, and has smaller fruit borne in clusters. ■

©1988, Gale W. Carter.

The Night Sky

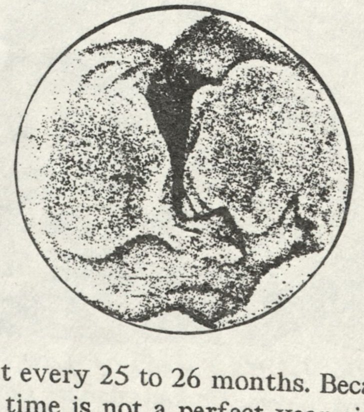
As Mars Approaches

by
Francine Jackson

The liftoff went perfectly, and two spacecraft are now heading toward Mars. In July, the Soviet Union launched back-to-back missions to Mars' larger moon, Phobos. Expected rendezvous dates are January 25 and 29, 1989.

But, even without this fantastic bit of news, the planet Mars will soon be getting a lot of publicity. This month, it is at its best observing position in 17 years. On September 21, Mars will be at its closest, about 36 million miles from Earth. With the unaided eye, you may see Mars become the brightest object in the night sky, even surpassing brilliant Jupiter, which rises several hours later.

The Earth and Mars travel around the sun in different periods. Earth takes 365 and a half days to revolve once around the sun; Mars, being farther from the sun, makes the trip in 687 days. Because of this difference, we tend to "catch up" or "meet" Mars in the sky -- that is, be in opposition -- about every 25 to 26 months. Because that time is not a perfect year either for Mars or the Earth, opposition occurs in different parts of the sky. Also, because planets travel in ellipses, not circles, the planets meet at different distances. This month, opposition occurs while the two planets are at their closest approach since 1971.



Your best views of Mars will be through telescopes, especially those four inches or larger. Not only will the size of the planet increase measurably, but also surface features will be relatively easy to resolve. In fact, various astronomical organizations are looking for enthusiastic observers to sketch their impressions of the Martian surface. If you have a good set of eyes, and can fairly well capture your impressions on paper or on film, you might consider sharing your observations with the scientific community. But, even if you just like to look, the views of Mars you will see will be worth the observing time.

As a further inspiration to looking at Mars, this year marks the 50th anniversary of Orson Welles' radiocast of H.G. Wells' classic *War of the Worlds*. With Mars so easy to see, perhaps we could reassure ourselves that Earth is safe from any Martian visitation. ■

Letters to the Editor

Could you do me a favour and send me another copy of the June 1988 issue. I enjoy every single copy I received so far, but the last one I absolutely have to share with my Dutch sister, a botanist. Usually the Dutch tend to think that they are the only ones plagued by the elm disease which wiped out these precious trees cherished so much.

Virginia E. van Dooren
Guilford

I read "Reaching back to an Elegant Past" in the June issue. As one who landscapes professionally (Federal Reserve Bank in Boston) and as one whose birthplace is New Haven, I'm most interested to learn much more about *Ulmus American*, including latest research findings on the Dutch elm disease and the bark beetle. Also, I am interested in purchasing an elm and learning to care for it.

David Reynolds
Wakefield, Massachusetts

I read the article about elm trees in the June *Citizens' Bulletin*. My father has a case of elm fever and has since given it to me. He was absolutely thrilled when a self-seeded elm tree poked its leaves out of the hedges. We're not sure what kind of an elm it is, or how it got there, but we're thrilled to have it. The tree is now about 15 feet tall and seems to be doing great.

We would like to get more information on what to look for in the event of the elm disease. I would also like to get an elm for my own back yard.

Roberta Miller
Stratford

Many readers wrote in about the elm tree story. It's clear this tree has found a permanent place in the heart of Connecticut. For more information on the tree and the Dutch elm disease, readers may contact the Elm Research Institute, Harrisville, New Hampshire, 03450. There is also a toll-free number: 1-800-FOR-ELMS. The most recent quote for the purchase of a single elm seedling is $30.00. Ed.

Great to keep us in touch with our home state.

John A. Eastwood
Las Vegas, Nevada

This is the best thing I've read in the last 10 years.

Frederick Fries
Ellington

I think it's great -- so informative. Must be a great help to scouts and kids in school. From a grandmother.

Mrs. Marjorie Kelsey
Manchester

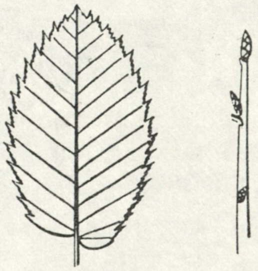
Of all my subscriptions, this is the best.

William Keemon Sr.
Troop 17, Boy Scouts of America
Norwich

The *Bulletin* goes on getting better and better.

Richard H. Blewett
Stratford

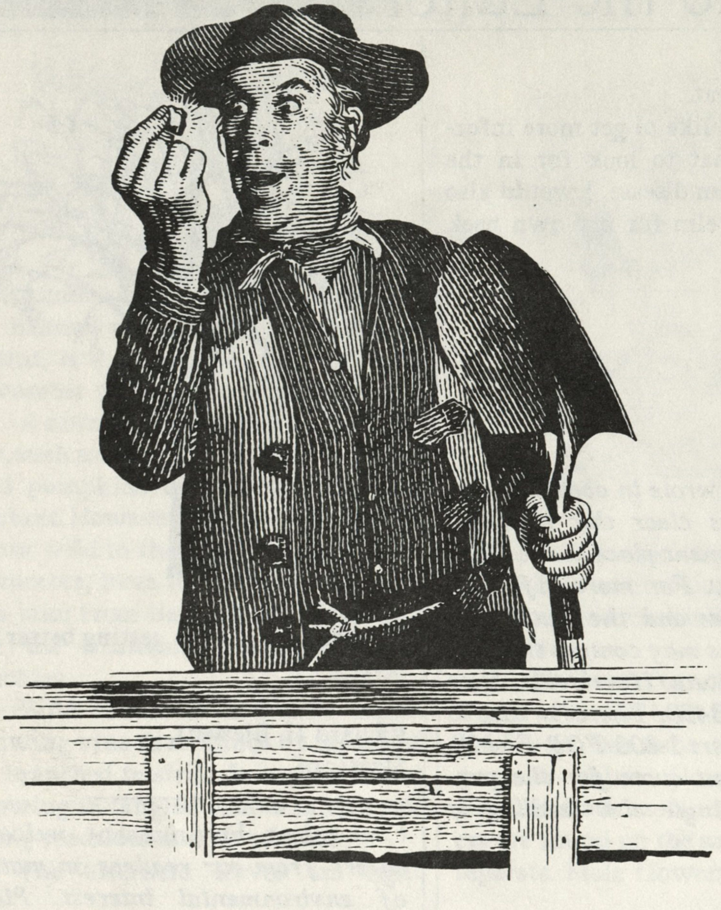
Connecticut Environment *welcomes letters from our readers on matters of environmental interest. Please make letters no longer than 100 words. Letters will be subject to editing.* ■



Endnote

"The great men in history, saints and wise men, have realized that ultimately their power did not amount to much, and it was because they understood this that they became truly great and harmonized with the cosmos."

Taisen Deshimaru



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